



THE
ROCKEFELLER
FOUNDATION

Project Screening Tool to Align Upstream Urban Climate Resilience Planning to Downstream Finance

An Addendum to Climate Resilient Strategy Preparation Methods



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Cities Development Initiative for Asia

The **Cities Development Initiative for Asia** (CDIA) is a regional initiative established in 2007 by the Asian Development Bank (ADB) and the Government of Germany, with additional funding support from the governments of Austria, Sweden, Switzerland and the Shanghai Municipal Government. The Initiative provides assistance to medium-sized Asian cities to bridge the gap between their development plans and the implementation of their infrastructure investments. CDIA uses a demand driven approach to support the identification and development of urban investment projects in the framework of existing city development plans (including adopted master plans and climate resilience strategies) that emphasize climate change, environmental sustainability, pro-poor development, and good governance. To facilitate these initiatives at city level, CDIA provides a range of international and domestic expertise to cities that can include support for the preparation of pre-feasibility studies (PFS) for high priority infrastructure investment projects. To date, CDIA has completed 80 PFS in 47 cities in 16 Asia-Pacific region countries. On the basis of the completed studies, 47 projects have been linked to financing and implementation of infrastructure construction is either underway or soon to start.

Rockefeller Foundation

The **Rockefeller Foundation** established the Asian Climate Change Resilience Network (ACCCRN) in 2008. ACCCRN was designed to develop, test and demonstrate practical strategies for responding to the impacts of climate change on urban areas: for building the resilience of cities and communities and especially equipping poor and vulnerable communities with the right resources, tools and methods for responding to existing and future climate risks. By 2010, 10 core cities from India, Indonesia, Thailand and Vietnam were participating in ACCCRN. Each city developed both an vulnerability and adaptation Assessment (VAA) and a city climate resilience strategy (CRS). ACCCRN also supports the broader regional and global learning and dissemination of the approach developed in the 10 core cities, and in partnership with ICLEI (Local Governments for Sustainability), is now replicating the method in 40 additional cities in India, Bangladesh, the Philippines, and Indonesia.

Aligning Upstream Urban Climate Resilience Planning to Downstream Finance

Rockefeller Foundation convened a meeting on 'Investing in Urban Climate Change Resilience: Sharing Lessons and Accelerating Action' in Bellagio, Italy (2-6 June 2014). This document is prepared by CDIA as a follow-up product of Working Group 2 (Aligning downstream finance with upstream UCCR planning efforts for greater leverage and expanded UCCR infrastructure pipelines) that was established following the meeting. The preparation of the screens was supported by comments and inputs from members of WG2 and pilot testing in two cities in the Philippines and one in India. Advice to enhance the content and structure of the tool were also provided by regional stakeholders including the Asian Cities Climate Change Resilience Network (ACCCRN), Asian Development Bank (ADB), ARUP, ECOS, ICLEI-Local Governments for Sustainability, International Finance Corporation (IFC), KfW Development Bank, Mercy Corps, 100 Resilient Cities, UN-HABITAT, Urban Climate Change Resilience Trust Fund (UCCRTF), World Bank. All errors and omissions are the responsibility of the authors.

Building urban climate resilience

The capacity of cities – individuals, communities, organizations, institutions, businesses and systems – to survive, adapt and thrive in the face of climate change related **stress** (chronic, slower onset, constant or cyclical stresses such as drought, higher temperatures, rising sea level, high costs of doing business, intermittent power supply, inefficient public utilities, chronic food and water shortages) and **shocks** (episodic with a quicker, often more unpredictable onset, such as cyclones, floods, landslides or disease outbreaks), and even transform when conditions require it.¹

¹ Sources: 'Investing in urban climate change resilience: sharing lessons and accelerating action', Aide-Memoire, Rockefeller Foundation Conference Center, Bellagio, Italy (2-6 June 2014), International Finance Corporation (2015) 'The Project Development Facility to Support Infrastructure to Build Resilience: "Resilience Screen" Guidance and Background Information' p.3.

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Getting started

What are the screens for?

- To add to existing planning methods for preparing city resilience strategies or action plans.
- To improve the relationship between the city's investment needs and the identification of financing for their implementation.
- To support cities more rigorously consider and prepare for climate change resilient infrastructure investments.
- To motivate cities to consider at an early stage the anticipated feasibility of infrastructure priorities and the opportunity for financing these investments.
- To enhance the revision and updating of existing strategies to strengthen infrastructure investment elements.
- To strengthen the overall infrastructure related elements of city resilience strategies.
- To address particular perceived weaknesses in the city resilience strategy preparation – such as an inadequate understanding of the scope, rationale and impact of particular investments, or the insufficient evidence on what the city can afford and the financing opportunities that are open to the city.
- The screens can be adapted to the city's needs.

Why are the screens necessary?

- The magnitude of infrastructure investments required in most Asian cities, coupled with capacity constraints (including the availability of funding and staffing levels) in cities is an obstacle to sustainable urban

development in general, and climate resilient project planning and implementation processes specifically.

- A review of city climate change resilience strategies has indicated that that identification of infrastructure investments is generally weak and that planning methods could be improved to support cities in doing so.
- Insufficient identification and profiling of investments results in a significant barrier in linking investment needs to financing.
- The impacts of climate change can be magnified through a domino-effect of losses caused when critical infrastructure and services fail following a disaster or extreme weather event.

What about non-infrastructure measures?

- Non-physical (sometimes called 'soft' measures) are often well represented in city resilience strategies ranging from community-based disaster management arrangements to capacity building measures throughout the city.
- Existing city resilience strategy planning methods are well-tuned to identifying and prioritizing these needs.
- This addendum focuses on the perceived weakness of existing city resilience strategy planning methods – the need for improved infrastructure investment profiling and financing.
- But the relationship between physical infrastructure investments and non-physical investments is critical: infrastructure requires capacity for operation and maintenance, people threatened by weather events need the means to get to safety and shelters and so on.
- Infrastructure investment therefore requires supporting non-physical measures where these are not currently covered by the city resilience strategy, and the participatory design of these needs is critical to effective identification.

- Enhancing the resilience of cities through prioritized investments in infrastructure requires an inclusive approach. This means responding to the needs of all citizens but with particular emphasis on those that are most vulnerable, and least resilient, to the impacts of climate change.

What will we achieve by using these screens?

The screens reflect on, and support your city's response to, four critical questions:

- Screen 1: Have climate change adaptation infrastructure investment projects been identified and prioritized?²
- Screen 2: Have climate change adaptation infrastructure investment projects been adequately profiled (most especially how much will these investments cost)?
- Screen 3: Have potential sources of financing for your infrastructure priorities been adequately screened and considered for suitability?
- Screen 4: Have municipal finances been reviewed and the ability of municipal government to secure financing for climate resilient infrastructure investments assessed?

Who will we do this? How long will it take?

- The screens can be completed by the city government (but calling on others – research organizations, local banks and financiers, businesses, NGOs and community organizations – where useful and necessary).

² This screening should ideally cover both CRS and other forms of city master plans to ensure that there is consistency between planning instruments and that the potential for climate resilient investments (new and through rehabilitation and adaptation of existing infrastructure) identified in city master plans are captured. As discussed in Section 3 for example, the first generation of ACCCRN sponsored

- A lead focal person should be identified – this could be a focal point on climate change (where such a position exists) or a senior department manager – to organize and coordinate the work.
- All departments with infrastructure responsibilities and implications should be involved. Each of the screens identifies: who needs to be involved, what materials will be required, how long will it take, tips and suggestions for completion and frequently asked questions (FAQs)³
- Remember, the screens may also be completed incrementally over time, for example starting by profiling 1 or 2 very high priority investments (Screen 2) first, and returning later to profile other potential investments.
- It is highly recommended to complete the screens at the draft final stage of creating any kind of city resilience strategy or action plan.

Will we need assistance in completing the screens and where might we get this?

- The capacity of city governments (for example staff availability and experience, and the ability and willingness for departments to work together) is likely to vary markedly between countries and between cities (dependent for example on the size of cities and city governments).
- The screens have been designed to be as self-explanatory as possible, to be adaptable to your local context and a guide to the types of information that are very useful in infrastructure and investment planning. Inevitably, not all information may be available and from experience we know the quantity, quality, and accurateness of data available will differ, markedly, between countries and between cities.

CRS had been oriented towards the prioritisation of capacity development measures.

³ 'Tips and suggestions' and 'FAQs' are included for development incrementally over time, initially through the experience of the pilot cities and subsequently through the use by other cities. Some of the fields are therefore unfilled.

- A 'Further information' table accompanies each of the screens and points to where further help may be available.

Screen 1: Have investment projects been identified and prioritized?

Getting started	
What is it trying to achieve?	<ul style="list-style-type: none"> • A rapid review and refresher on what climate resilient investments have been identified in the CRS and other city plans and strategies, and whether these have been adequately prioritized. • A reminder of whether there are infrastructure gaps that have been overlooked and/or whether there is insufficient prioritization at present to identify high priority investments for profiling (Screen 2).
Who should complete this?	<ul style="list-style-type: none"> • Coordination: focal point (for climate change where such a position exists or a senior department manager). • Completion: representatives from all departments with infrastructure responsibilities (planning / designing, financing and O&M) – typically 5-8 senior officials providing inputs on plans in their sub-sectors (for example water supply and sanitation, transport, flood management and so on).
How should it be completed?	<ul style="list-style-type: none"> • A facilitated roundtable discussion of key representatives to ensure consensus on responses. • Alternatively (where a roundtable discussion is impractical) compilation through department consultation and inputs, concluding with a presentation and verification of the results by senior management and elected representatives.
What materials will be needed?	<ul style="list-style-type: none"> • The CRS and other master plans, sector strategies / plans. • This is an ideal point to gather all relevant documents in a central resource point (ideally both hard copies and electronic copies).
How long will it take?	<ul style="list-style-type: none"> • 1-2 working days.

Have investment projects been identified and prioritized?

Urban sub-sectors and themes	Your city resilience strategy / plan				Your master plan, sector strategies / plans			
	Has your CRS prioritized?	Approximate investment (local / USD)	Are there revenue-generating investments?	Is there PPP potential?	Do master / sector plans prioritize UCCR investments	Approximate Investment (local / USD)	Are there revenue-generating investments?	Is there PPP potential?
Disaster risk reduction	Yes / No		Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
Drainage	Yes / No		Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
Education facilities	Yes / No		Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
Environment	Yes / No		Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
Flood management	Yes / No		Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
Sanitation	Yes / No		Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
Housing	Yes / No		Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
Power and energy	Yes / No		Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
Public Health Facilities	Yes / No		Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
Solid Waste Management	Yes / No		Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
Transport	Yes / No		Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
Waste water management	Yes / No		Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
Water Supply	Yes / No		Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
Telecommunications	Yes / No		Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
Other	Yes / No		Yes / No		Yes / No		Yes / No	
Capacity building in UCCR	Yes / No		Yes / No		Yes / No		Yes / No	

Explanatory notes

Enhancing the resilience of cities through prioritized investments in infrastructure and associated costs requires an inclusive approach. This means responding to the needs of all citizens but with particular emphasis on those that are most vulnerable, and least resilient, to the impacts of climate change. The prioritisation and design of all infrastructure and associated investments must respond to the needs of the urban poor

Urban sub-sectors and themes ⁴	Extent (examples)	Commonly cited relevance (examples)
Disaster risk reduction	As below. Repair and rehabilitation of existing coastal and river embankments. Repair and rehabilitation of weather resilient urban drainage systems. Construction of multi-purpose shelters (as schools, clinics, community facilities etc.) able to withstand predicted hazard, with stocked and inventoried emergency supplies and materials. Working and monitored Early Warning Systems hardware and supporting human resources?	Increased vulnerability to cyclones, floods and tidal wave surges that are more frequent and more intense.
Drainage	Primary and secondary drainage. Appropriately designed culverts and bridges. Downstream impacts of rapid drainage runoff monitored to ensure damage is not being inflicted outside of city investment jurisdiction. Drainage canals kept dredged and free of garbage backing up floodwaters as rainy season begins.	Increasing temperatures result in material expansion and impact structures such embankments and culverts. Culverts and bridges that are inadequately designed. Frequent floods. Drainage congestion. River bank erosion. Infrastructure development reducing limited natural drainage.
Education facilities	Resilience (physical and location) of all primary and secondary education facilities. Facilities considered as (additional) disaster shelters, and that appropriate resilience works are identified where necessary. Roads and pathways from schools to communities enhanced (where necessary) and protected.	Education may be affected for longer periods if facilities are not resilient enough to face climate change related disasters. Facilities may save lives and properties providing safe shelters during disasters. Suitable land allocated to critical infrastructure where it is required.
Environment	Extent, quality and location of 'green infrastructure' (for example natural drainage / flood retention areas, multi-use green spaces, reforestation, mangroves, coral reefs, protection against erosion through appropriate planting). ⁵	Deficient land use planning and land use allocation that is not aligned with a need for an inclusive and sustainable city. Loss of natural 'green infrastructure'. Opportunities for building resilience through natural responses.
Flood management	Existing coastal and river embankments (including maintenance / rehabilitation). A drainage system that is adequate for projected rainfall (increase and intensity). Adequately protected and	Sea level rise. River bank / coastal erosion. Infrastructure development reducing limited natural drainage and exacerbating flooding risks. Encroachment and narrowing of rivers.

⁴ This can include strategic investments that extend beyond the administrative boundaries of the city, and include urban-rural linkages.

⁵ This should also consider the impacts of environmental change beyond the city boundaries (for example in drainage catchments areas) where changes to land use (such as the loss of agricultural land, deforestation and urbanisation) can have a significant impact on downstream flooding.

	maintained flood retention (such as ponds and overflow basins as relevant to the context)?	
Housing (residential)	Housing is appropriately sited in relation to risks. Housing standards (rules and regulation) are appropriate.	Protection of lives and property from current hazards, extreme weather events and climate change.
Power and energy	Power generation facilities. Sub-station distribution. Electricity supply lines. Storage of fuels. Energy efficiency. Renewable energy.	Protection (physical and location) of facilities. Suitable land allocated to critical infrastructure where it is required, or where it is necessary to relocate infrastructure to less vulnerable areas.
Public health facilities	Health clinics, hospitals and other medical centers are appropriately located, and priority facilities are protected. These facilities are considered as (additional) cyclone shelters, appropriate resilience and accessibility works are identified where necessary?	Climate change related public health issues will increase (dengue, malaria, heat stress, air pollution, greater intensity or spread of infectious diseases particularly cholera, diarrhoea, dysentery and typhoid) and protected facilities are critical in disaster / post-disaster phases. Suitable land allocated to critical infrastructure where it is required.
Solid waste management	Appropriate specifications and location of solid waste management (sanitary landfill, treatment facilities).	Poor or absent collection services with no landfill, or landfill in other administrative boundaries, and indiscriminate dumping of waste with knock-on impacts to choked drainage systems. Suitable land allocated to critical infrastructure where it is required, or where it is necessary to relocate infrastructure to less vulnerable areas.
Transport	Identification and protection of strategic roads, rail, water-borne and air transport infrastructure that must be protected? Secondary routes linking schools, hospitals and sources of livelihoods to citizens using them integrated into facility protection. Road infrastructure is resilient to changing nature of hazards through adjusted design standards including all weather road network, road/embankment height enhancement, road cross drainage (culverts and regulators).	SLR/ increasing normal tide levels flooding coastal zones (geographical extent and inundation time). Flooding and temperature increases adversely affecting infrastructure resilience. Increased resilience of strategic escape routes and safe havens. Increased resilience for core transport infrastructure in post-disaster recovery). Suitable land allocated to critical infrastructure where it is required, or where it is necessary to relocate infrastructure to less vulnerable areas.
Waste water management (sanitation)	Sewage treatment facilities that are appropriately designed, located and sufficiently resilient. Sanitation for the urban poor is adequately designed, affordable, and adapted (to the needs of the poor and CC).	Protection of the environment and health. Lack and/or vulnerability of sewage treatment facilities. Unsanitary disposal of sewer and septic tank sludge. Use of pit latrines and/or septic tanks susceptible to inundation. Contamination of shallow groundwater sources resulting from inundation induced seepage. Lack or absence of, operable sanitation facilities following disaster. Suitable land allocated to critical infrastructure where it is required, or where it is necessary to relocate infrastructure to less vulnerable areas. Suitable land allocated to critical infrastructure where it is required, or where it is necessary to relocate infrastructure to less vulnerable areas.
Water supply	Protection of critical infrastructure (water storage and distribution) through structural enhancement and elevation.	Scarcity of fresh water. Saline water intrusion. Wider salinity contamination in the surface, ground and soil in the coastal zone. Prolonged and widespread drought. Demand outstripping supply under normal climatic conditions. Increased urban water

	Control of groundwater extraction. Improved rainwater harvesting (and technologies)?	supply demand (domestic and industrial) due to higher temperatures. Ineffective / inefficient rain harvesting. Insufficient or poorly maintained production/deep tube wells. Suitable land allocated to critical infrastructure where it is required, or where it is necessary to relocate infrastructure to less vulnerable areas.
Capacity in UCCR	The availability and capability of individuals, organizations and institutions (policy, law, rules, regulations, culture, norms) that support inclusive, transparent and accountable governance that inhibits development of issues including UCCR infrastructure planning and programming.	Lack or absence of officials with understanding of UCCR or leverage to ensure coordination and collaboration between organizations. Lack of inter and intra-agency action.

Further information

Organization	Description (eligibility)	Support available	Details
Cities Development Initiative for Asia	Medium to large cities in Asia with an urban development plan.	Core services include preparation of medium term infrastructure investment programming where projects have not previously been prioritized.	http://cdia.asia
International Finance Corporation	To be eligible for grant support: a) approval at an IFC Concept Review Meeting (CRM), b) pass a 'Resilience Screen' designed to assess whether or not a project has the potential to contribute to building resilience.	'Project Development Facility to Support Infrastructure to Build Resilience' Seeks to drive private sector financing for infrastructure projects that build urban resilience across emerging markets. Grant support for the screening of projects for resilience.	http://www.ifc.org
Urban Climate Change Resilience Trust Fund	Second tier cities.	To be confirmed.	
UN-HABITAT	No restriction.	Tools, guidance and potential Technical Assistance for the development of climate vulnerability assessments and climate action plans.	http://unhabitat.org/urban-themes/climate-change/
ICLEI	No restriction.	Tools, guidance and potential Technical Assistance for the development of climate vulnerability adaptation assessments and climate action plans.	http://www.iclei.org/our-activities/our-agendas/resilient-city.html
ACCCRN	Asia region. No restriction.	Guidance on the role and promotion of inclusive governance to achieve UCCR goals. Technical assistance in the form of tools, guidance and potential support for the development of climate vulnerability assessments and climate action plans.	http://accrn.net/about-accrn
Mercy Corps	No restriction.	Guidance on the role and promotion of inclusive governance to achieve UCCR goals. Technical assistance in the form of tools, guidance and potential support for the development of climate vulnerability assessments and climate action plans.	https://www.mercycorps.org.uk/research-resources/climate-change

Screen 2: Have investment projects been adequately profiled?

Getting started

What is it trying to achieve?	<ul style="list-style-type: none"> • A more comprehensive profiling and understanding of high priority infrastructure investments – the scope, scale, type and anticipated impacts. • An early and approximate indication of the possible financial, physical, environmental and social feasibility of proposed investments.
Who should complete this?	<ul style="list-style-type: none"> • Coordination: focal point (for climate change where such a position exists or a senior department manager). • Completion: representatives from relevant departments dependent on priority investments.
How should it be completed?	<ul style="list-style-type: none"> • A separate profile needs to be completed to each investment. • Completion of each investment profile should be led by an assigned official in the relevant department collaborating with, and supported by, departmental and city government colleagues. • Draft finalized profiles should be presented to a focused working group for validation, the identification of gaps and how these gaps are addressed.
What materials will be needed?	<ul style="list-style-type: none"> • All reports, background papers, surveys, maps and data pertinent to the investment. • Research papers addressing the context for investment • Reports and background material of context relevance (for example typical unit costs, examples of similar investments elsewhere etc.).
How long will it take?	<ul style="list-style-type: none"> • The work can be carried out intermittently as information and data becomes available. • Each screen will take approximately 1 working day, intermittently over 1-2 weeks.

Tips and suggestions

Individual investments versus packages	The screen can be applied to individual investments (for example a flood defence wall), a package of sector investments (for example, a number of resilience investments in water supply), and a package of multi-sectoral investments (such as the provision of shelters, the strengthening of strategic roads to access these facilities and the development of early warning systems and facilities). Packaging proposals may support developing a scale of investment that may be more appropriate for external financing.
Don't get lost in the details – use 'rules of thumb' and professional judgment	Data, where available, is rarely perfect. You are trying to better understand and present what the investment will achieve – so professional judgment will be important (- /+ 20% will be good enough at this stage of the investment process). The profiling is a first step and if the investment is to develop further the details will be worked up through a pre-feasibility assessment or full feasibility study.
Focus on priorities	The screen is best suited to a small number of highest priority investments.

City / Project Investment Title:		
Project Description	<i>Concise statement of what the project consists of (type of investment, hard and soft measures such as Capacity Development). As a guide this should no longer than 300 words.</i>	
Implementing Agency	Executing Agency:	
	Support Agencies:	
Situation Summary	<i>Core problem and challenges / opportunity statement (please also describe social, environmental, climate (resilience) and governance aspects)</i>	
Project objective	<i>Concise statement of what the project seeks to achieve</i>	
Policy Context	<i>Are there key supporting policy frameworks? Is the project indicated in the city master plan or other official strategies or plans?</i>	
	<i>Is the project consistent with regional / sub-regional policy and strategy?</i>	
Technical Description <i>(e.g. components, supporting measures, width/length/capacity/area, staff, nature of technology)</i>	Items / Project components	Description
	1.	
	2.	
	3. <i>Insert additional rows as necessary</i>	
	<i>Key challenges to ensure technical project viability (e.g. land acquisition, resettlement etc.)</i>	
Beneficiaries	<i>Describe type of direct and indirect benefit, and number of users, residents, operators, employees, etc.</i>	
Anticipated social and poverty impacts ⁶ <i>(e.g.</i>	Description of project impact (positive and negative)	No. of people / households affected
	1.	<i>Qualitative and/or quantitative indicators</i>
	2.	<i>Qualitative and/or quantitative indicators</i>

⁶ Where relevant the social, economic and environmental impacts should include those outside the city administrative boundaries. Impacts should include both positive and negative anticipated results.

<i>gender-disaggregated, vulnerable groups)</i>	3. Insert additional rows as necessary		<i>Approximate number</i>
Anticipated economic impacts	Description of project impact (positive and negative)		Type of impact
	1.		<i>Qualitative and/or quantitative indicators</i>
	2.		<i>Qualitative and/or quantitative indicators</i>
	3. Insert additional rows as necessary		<i>Qualitative and/or quantitative indicators</i>
Anticipated environmental and climate impacts	Description of project impact (positive and negative)		Type of impact
	1.		<i>Qualitative and/or quantitative indicators</i>
	2.		<i>Qualitative and/or quantitative indicators</i>
	3. Insert additional rows as necessary		<i>Qualitative and/or quantitative indicators</i>
Anticipated governance impacts (<i>e.g. on inter-departmental cooperation, transparency, institutional set-up</i>)	Description of project impact (positive and negative)		Type of impact
	1.		<i>Qualitative and/or quantitative indicators</i>
	2.		<i>Qualitative and/or quantitative indicators</i>
	3. Insert additional rows as necessary		<i>Qualitative and/or quantitative indicators</i>
Preliminary / Outline Costs and Financing	Project Investment / Item	Local Currency	USD
	1. Project development ⁷		
	2. Capital Expenditure (e.g. for land acquisition, construction, equipment and furnishing) ⁸		

⁷ Covers: a) Pre-feasibility / feasibility studies, b) transaction costs (lawyers, consultants, bankers) at 1.5-2% of total project costs

⁸ It is recommended that a document giving a tentative breakdown is annexed to this Screen.

3. Other costs		
4. Supporting non-infrastructure costs (e.g. capacity development)		
TOTAL (project investment)		
Has funding (cost sharing) for the investment been identified? If yes, please specify:	Local Currency	USD
City own source		
National / regional funds (grants, loans or transfers)		
Private sector investment		
Commercial borrowing		
Concessional loans		
TOTAL (investment identified)		
Approx. Operation & Maintenance (O&M) costs /year		
<i>How will the O&M costs be covered (e.g. tariffs, fees, municipal revenue etc.)?</i>		
What is the financing gap (between the anticipated cost and currently identified financing)?		
<i>Describe what actions you will take to address this financing gap.</i>		

ANNEXES - Detailed map (location, route, area), indicative design, photographic evidence of problem, tentative costs per project component

Further information

Organization	Description (eligibility)	Support available	Details
Cities Development Initiative for Asia	Medium to large cities in Asia with an urban development plan	Services include the preparation of pre-feasibility studies, c) linking cities to finance for infrastructure financing	http://cdia.asia
International Finance Corporation	To be eligible for grant support: a) approval at an IFC Concept Review Meeting (CRM), b) pass a 'Resilience Screen' designed to assess whether or not a project has the potential to contribute to building resilience	'Project Development Facility to Support Infrastructure to Build Resilience' Seeks to drive private sector financing for infrastructure projects that build urban resilience across emerging markets. Grant support for the screening of projects for resilience	http://www.ifc.org
KfW	Eligibility only in determined focus areas (sectoral) of German Development Cooperation, agreed in government negotiations between the German Government and the Government of the respective partner country.	Possible support in feasibility/fact finding studies	https://www.kfw.de/KfW-Group/
Urban Climate Change Resilience Trust Fund	Second tier cities	To be confirmed	
100 Resilient Cities		To be confirmed.	http://www.100resilientcities.org/pages/100-resilient-cities-challenge#/-/

Screen 3: Have potential sources of financing been adequately screened and assessed for investment suitability?

Getting started	
What is it trying to achieve?	<ul style="list-style-type: none"> • A reality check on what source and scale of finances may be available to finance priority investments.
Who should complete this?	<ul style="list-style-type: none"> • Coordination and completion: focal point (for climate change where such a position exists or a senior department manager) collaborating and calling on knowledge in city government departments (the finance department on the potential for public funding) and external organizations (for example through private sector forums, commercial banks, donor representatives (where present in the city), research organizations with appropriate experience etc.).
How should it be completed?	<ul style="list-style-type: none"> • By using the existing knowledge and experience of the city government and external organizations, through web-based searches and communications with contacts in appropriate organizations. • A draft screen should be presented to a focused senior management working group for validation, the identification of gaps and how these gaps are addressed.
What materials will be needed?	<ul style="list-style-type: none"> • Web based downloads (for example outlining eligibility criteria, fund descriptions, funder profiles and descriptions etc.) • Financial data (from the finance department) on the potential for, and scale of, public financing.
How long will it take?	<ul style="list-style-type: none"> • 2 working days (intermittently over 1-2 weeks).

Tips and suggestions	
Establish a link with your Country's accredited agency for access to official Climate Funds	Reach out to the designated national authority to whom you can inquire and solicit support for access to the Green Climate Fund, etc.
Use your profiles to package and market your investment proposals	Once you have a project investment profile you can use this to develop marketing materials that help to inform and attract the attention of potential investors. This might include commercial banks and private sector companies (where the investment has strong potential for a public-private partnership)

Explanatory notes for the completion of Screen 3

Public financing

• Government	National, regional or provincial government (including capital investment funds).
• Municipal fees and charges	User charges (applied to projects appropriate to 'user pays' principle), building rights and permits (fee and charge based).
• Municipal taxes	Property taxes, business rates.

Debt financing

International	Includes concessional and soft loans through development finance institutions such as: ADB = Asian Development Bank, IDB = Islamic Development Bank, JICA = Japan International Cooperation Agency, KOICA = Korea International Cooperation Agency, KfW = German Development Bank, WB = World Bank. Includes commercial banks and market rate loans. Includes special purpose vehicles.
National	Includes national municipal development banks and funds (also termed 'subnational pole financing mechanisms' offering concessional loans to municipal governments). Includes commercial banks. Includes special purpose vehicles.
Bonds	Includes municipal bonds, project bonds, infrastructure bonds and green bonds.
Debt refinancing mechanisms	Often consists of securitization (structured finance techniques that turn illiquid (infrastructure) assets into securities (asset-backed securities that can be issued and traded on capital markets).

Equity financing⁹

Equity-funded direct investments	Special purpose vehicles (SPV) and joint ventures (JV).
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Climate financing

Grants and loans (see table below)	This will cover either or both infrastructure grants and/or loans, and technical assistance (grants and/or loans) for the preparation (pre/feasibility) of infrastructure investments.
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⁹ **Bonds** are debt instruments. Investors lend money to a borrower. The bond is a longer term 'I owe you (IOU)'. As bonds are fixed income securities they do not grow in value but from investors perspective are less volatile than equity. **Equity** is the funding raised from selling shares in a company (each share entitles its owner to a proportion of the assets due to the class of share issued). Equity is usually distinguished as 'listed' (when equity is traded on public markets) and 'unlisted' (or 'private', when it is not). Equity-funded direct investments are commonly used to finance capital-intensive infrastructure projects through SPVs and JVs for example. As the value of equity can rise and fall it is a riskier form of investment.

Have potential sources of financing been adequately screened and assessed for investment suitability?

	Source	Potential ¹⁰	Brief description ¹¹	Level of investment ¹²	Comments
Public financing					
Government					
Municipal fees and charges ¹³					
Municipal taxes					
Tax incentives					
Public assets ¹⁴					
PPPs					
Debt financing					
International loans					
National loans					
Bonds					
Guarantees and credit enhancement					

¹⁰ The perceived potential as a source of climate change resilience financing – N = Non-existent, L = Low, M = Medium, H = High.

¹¹ This can include conditions of investment such as the blend of grants/loans, % interest payments, length of repayment, potential risks, the focus of financing (such as project preparation, technical assistance, construction etc).

¹² Approximate potential level of investment available (local currency, % of investment needs).

¹³ Including impact fees and land value capture mechanisms.

¹⁴ Including use of public assets as leverage, the receipts from the sale of buildings and land.

Debt refinancing mechanisms					
Equity financing					
Listed infrastructure equity					
Infrastructure funds					
Private equity structures and funds					
Equity-funded direct investments					
Climate financing¹⁵					
Grants					
Loans					

Further information			
Organization	Description (eligibility)	Support available	Details
Cities Development Initiative for Asia	Medium to large cities in Asia with an urban development plan	Services include linking cities to finance for infrastructure financing	http://cdia.asia

¹⁵ See 'Financing Urban Adaptation to Climate Change a Mapping of Existing Initiatives': <http://www.i4ce.org/download/financing-urban-adaptation-to-climate-change-impacts-mapping-of-existing-initiatives/>

International Finance Corporation	To be eligible for grant support: a) approval at an IFC Concept Review Meeting (CRM), b) pass a 'Resilience Screen' designed to assess whether or not a project has the potential to contribute to building resilience	'Project Development Facility to Support Infrastructure to Build Resilience' Seeks to drive private sector financing for infrastructure projects that build urban resilience across emerging markets. Grant support for the screening of projects for resilience	http://www.ifc.org
KfW	Eligibility only in determined focus areas (sectoral) of German Development Cooperation, agreed in government negotiations between the German Government and the Government of the respective partner country.	Possible support in feasibility/fact finding studies	https://www.kfw.de/KfW-Group/
Urban Climate Change Resilience Trust Fund	Second tier cities	To be confirmed	
ECOS Consultancy through the Standard for Sustainable and Resilient Infrastructure	No restriction	The Standard for Sustainable and Resilient Infrastructure (SuRe) - a voluntary sustainability standard, in order to promote infrastructure that is environmentally sound, socially desirable, economically viable, and contributes to community resilience.	http://www.ecos.ch
Civil Society organizations	National and city level	Able to serve as 'investment watch' groups to keep investments accountable, transparent and inclusive	

A guide to international climate resilient financing in Asia-Pacific¹⁶

Fund / Funder (focal agency)	Finance				Scale	Focus (organization, geography)	Snapshot, further information and contacts
	INFRA	TA ¹⁷	LOAN	GRANT			
Adapt-Asia Pacific Project (USAID)		✓		✓		Public (not specific to local government) Bangladesh, Cambodia, India, Indonesia, Laos, Maldives, Mongolia, Nepal, Philippines, Sri Lanka, Thailand, Timor-Leste, and Vietnam	Main objective: establish a self-sustaining adaptation project preparation facility http://www.adaptasiapacific.org/content/about-adapt-asia-pacific
Adaptation Fund (Secretariat hosted by GEF)	✓	✓		✓	USD 277 million (max. USD 10 million per project)	Public (not specific to local government) Worldwide	Supports concrete adaptation activities that reduce the adverse effects of present and future climate change facing communities, countries, and sectors. The Fund will finance projects and programs whose principal and explicit aim is to adapt and increase climate resilience. https://www.adaptation-fund.org/
ADB Climate Change Fund (CCF)	✓	✓		✓	USD 15 million (USD 14 m for adaptation)	Public and private (not specific to local government) Asia-Pacific	Addresses both adaptation and mitigation and supports preparation of strategies / action plans, investment in adaptation measures, development of knowledge products and services related to climate change. http://www.adb.org/site/funds/funds/climate-change-fund Ms. Esmyra Javier, Associate Climate Change Officer: ejavier@adb.org
Cities Climate Finance Leadership Alliance (UN)					Unknown	Unknown	Facilitates knowledge sharing among city leaders, finance and climate experts on ways to stimulate investment in key low-carbon and climate resilient infrastructure.

¹⁶ This table adapts information available from 'Financing Urban Adaptation to Climate Change a Mapping of Existing Initiatives', CDC Climat Recherche / Agence Française de Développement (2015) and 'A Quick Guide to Climate Change Adaptation Funds', USAID (2015).

¹⁷ Includes project planning and preparation, capacity building, diagnostic studies.

Fund / Funder (focal agency)	Finance				Scale	Focus (organization, geography)	Snapshot, further information and contacts
	INFRA	TA ¹⁷	LOAN	GRANT			
Cities and Climate Change Initiative (CCCI), (UN-HABITAT)		✓	✓	✓		Local authorities Worldwide	Aims to promote climate change mitigation and adaptation in urban areas in developing countries through CC vulnerability assessments and action plans http://www.unhabitat.org/ccci http://www.fukuoka.unhabitat.org/programmes/ccci/index_en.html
City Creditworthiness Academy joint World Bank / C40 Cities Climate Leadership Group / PPIAF)	✓		✓	✓	Unknown	Unknown	Aims to improve the capacity of city authorities to work towards achieving the investment-grade credit ratings that would allow them to borrow on domestic financial markets or potentially issue municipal bonds http://www.worldbank.org/en/topic/urbandevelopment/brief/city-creditworthiness-initiative
Cities Development Initiative for Asia (CDIA)		✓		✓	Typical up to USD 500,000	Local authorities (medium sized cities) Asia-Pacific	Funding for the preparation of medium term infrastructure investment plans and pre-feasibility studies http://cdia.asia/#
Climate and Development Knowledge Network (Government of the Netherlands / DFID)	✓	✓		✓	GBP 100 million Grants generally GBP 25,000 – 250,000	Public and private (not specific to local government) Worldwide (developing countries)	Support decision-makers in designing and delivering climate compatible development. http://www.cdkn.org/
Germany's International Climate Initiative (German Federal Ministry for the Environment (BMU))	✓	✓	✓	✓	EUR 1.6 billion (dispersed 2008-14)	Public and private (not specific to local government) Worldwide (developing countries)	Supporting particularly vulnerable countries and regions in increasing their capacity to adapt to the effects of climate change http://www.international-climate-initiative.com/en/about-the-iki/
Global Climate Change Alliance (EU)		✓		✓	USD 386 million (deposited)	Public (not specific to local government) Worldwide (countries must belong to either Least Developed Countries (LDCs) or the	Help improve knowledge about the effects of climate change and the design and implementation of appropriate adaptation actions that reduce the vulnerability of the population to the impacts of climate change.

Fund / Funder (focal agency)	Finance				Scale	Focus (organization, geography)	Snapshot, further information and contacts
	INFRA	TA ¹⁷	LOAN	GRANT			
						group of Small Island Developing States (SIDS)	http://www.gcca.eu
Global Facility for Disaster Reduction and Recovery (GFDRR), (World Bank)		✓		✓		Public (not specific to local government) Worldwide	Help high-risk, low-capacity developing countries better understand and reduce their vulnerabilities to natural hazards and adapt to climate change in the spirit of the Hyogo Framework for Action http://www.gfdr.org/
Green Climate Fund (GCF), (UNFCCC)	✓		✓	✓	Unknown	Public (not specific to local government) and private Worldwide	GCF seeks to support financing by opening markets for new investments. 50% of investment for adaptation projects http://www.greenclimate.fund/home
International Climate Initiative (ICI), (German Federal Ministry of Environment)		✓	✓	✓		Public (not specific to local government) and private Worldwide	ICI focus includes: a) mitigating greenhouse gas emissions, and b) adapting to the impacts of climate change.
Least Developed Country Fund (LDCF), under the Global Environment Facility (GEF), (UNFCCC)		✓		✓	Typically below USD 10 million	Public (not specific to local government) Worldwide: Non-Annex 1 members of UNFCCC	The LDCF finances the preparation and implementation of NAPAs in response to urgent and immediate adaptation needs in LDCs https://www.thegef.org/gef/LDCF Mr. Rawlestone Moore, Sr. Climate Change Specialist: rmoore1@thegef.org . Ms. Saliha Dobardzic, Sr. Climate Change Specialist: sdobardzic@thegef.org
Local Climate Adaptive Living Facility (LoCAL), (UNCDF)		✓		✓	Small (USD 1.5 million for the entire facility)	Local governments Initial focus in Asia is Bhutan, Cambodia, Laos, Solomon Islands	A mechanism to integrate climate change adaptation into local government planning and budgeting systems, increase awareness and response to climate change at local level, and increase the amount of finance available to local governments for climate change adaptation. Provides performance based climate resilience grants http://www.local-uncdf.org/ fakri.karim@uncdf.org

Fund / Funder (focal agency)	Finance				Scale	Focus (organization, geography)	Snapshot, further information and contacts
	INFRA	TA ¹⁷	LOAN	GRANT			
Pilot Program for Climate Resilience (PPCR), (World Bank)	✓	✓		✓		Public (not specific to local government) Worldwide	One of two targeted programs of the Strategic Climate Fund (SCF), under Climate Investment Funds (CIF). PPCR aims to pilot and demonstrate ways in which climate risk and resilience may be integrated into core development planning and implementation http://www.climateinvestmentfunds.org/cif/node/4
Project Development Facility to Support Infrastructure to Build Resilience (IFC)		✓	✓	✓		Global	Seeks to drive private sector financing for infrastructure projects that build urban resilience across emerging markets.
Resilient Cities Acceleration Initiative (Multi-lateral), (UN)		✓		✓		Local governments (500 to develop resilience action plans by 2020) Worldwide	Overarching objective: accelerate the design and implementation of integrated strategies that strengthen the resilience of urban systems to climate change. http://www.un.org/climatechange/summit/wp-content/uploads/sites/2/2014/09/RESILIENCE-Resilient-Cities-Acceleration-Initiative.pdf
Special Climate Change Fund (SCCF), under the Global Environment Facility (GEF), (UNFCCC)	✓	✓		✓	USD 329 deposited by April 2015)	Public (not specific to local government) Worldwide: Non-Annex 1 members of UNFCCC	Supports adaptation and technology transfer in all developing country parties to the UNFCCC https://www.thegef.org/gef/SCCF Mr. Rawlestone Moore, Sr. Climate Change Specialist: rmoore1@thegef.org . Ms. Saliha Dobardzic, Sr. Climate Change Specialist: sdobardzic@thegef.org
100 Resilient Cities (Rockefeller Foundation)	✓	✓		✓	USD 100 + million	Urban local government Worldwide	Supports the development of City Resilience Framework http://www.100resilientcities.org/#/-/
Urban Climate Resilience Trust Fund (ADB, DFID, RF)	✓	✓	✓	✓	USD 135 m / Target of 20-25 cities	Bangladesh, India, Indonesia, Pakistan, and Viet Nam	Focuses on: a) planning, b) project investment, c) knowledge. Approx. 70% of the funds will be allocated to technical assistance for project preparation, incentive financing and viability gap funding to at least

A guide to country climate resilient funds in Asia-Pacific¹⁸

Funder / fund	Finance				Scale	Focus (organization, geography)	Snapshot, further information and contacts
	INFRA	TA ¹⁹	LOAN	GRANT			
Bangladesh Climate Change Resilience Fund (BCCRF)	✓	✓		✓	Indicatively grants USD 15 – 25 million	Line ministries, NGOs and civil society organizations	Aims to build Bangladesh's resilience to the effects of climate change by supporting the implementation of the Bangladesh Climate Change Strategy and Action Plan http://www.bccrf-bd.org/Default.aspx
Indonesia Climate Change Trust Fund		✓		✓		Line ministries, government agencies, local govern	Reduce the vulnerability of the economy and society to the adverse impacts of climate change and strengthen the ability of national and local institutions and vulnerable communities to cope with the future impacts of climate change http://gcfund.net/home.html secretariat@icctf.or.id

¹⁸ This table adapts information available from 'Financing Urban Adaptation to Climate Change a Mapping of Existing Initiatives', CDC Climat Recherche / Agence Française de Développement (2015).

¹⁹ Includes project planning and preparation, capacity building, diagnostic studies

Screen 4: Have municipal finances been reviewed and the ability of municipal government to secure financing for climate resilient investments assessed?

Getting started	
What is it trying to achieve?	<ul style="list-style-type: none"> Establish whether your city is in a healthy financial situation to finance and/or source funding for climate resilient investments.
Who should complete this?	<ul style="list-style-type: none"> Coordination: Head of Finance. Completion: Accounts Officer.
How should it be completed?	<ul style="list-style-type: none"> The screen can be completed by the finance department. The completed screen should be presented to, and verified by, senior management and ideally also by elected / appointed representatives.
What materials will be needed?	<ul style="list-style-type: none"> Past 5 years annual accounts / reports (do not use interim reports). Information on outstanding debt (loans) and interest payments.
How long will it take?	<ul style="list-style-type: none"> 2 working days.

Tips and suggestions	
Adjust the template to your financial reporting systems	Before you start adjust the headings under revenues and expenditures so that it best fits your financial reporting statements (but includes all relevant financial data). This will make the task considerably quicker.
Beware extraordinary transactions	Watch out for extraordinary transactions that must have resulted in skewed historical trends in the financial performance (such as the sale of public assets that significantly increased revenues).

Have municipal finances been reviewed and the ability of municipal government to secure financing for climate change adaptation infrastructure investments assessed?

Revenues and Expenditures		Financial Years (previous 5-years actuals)				
A	City Government Revenues	FY1	FY2	FY3	FY4	FY5
A.1	Recurrent revenue (<i>municipal tax base</i>) Locally collected taxes which includes property and business taxes					
A.2	Recurrent revenue <i>Non-tax revenue sources: user charges (such as water, sewerage, waste), permit fees, charges and fines, service income, business income and other income</i>					
A.3	Capital revenues <i>Inter-government fiscal transfers, shared revenues</i>					
A.4	Capital revenues (<i>earmarked grants</i>) <i>Capital investment for medium (such as schools, hospitals etc.) and large-scale investments (such as ports, airports etc.)</i>					
A.5	Capital revenues (<i>sale of municipal assets such as land and buildings</i>)					
	Total revenue					
B	City Government Expenditures					
B.1	Capital expenditure <i>Infrastructure investment</i>					
B.2	Recurrent expenditure <i>Salaries and wages, social welfare, supplies, equipment, rents, emergency services, operation and maintenance, non-cash expenses²⁰</i>					
B.3	Recurrent expenditure (<i>debt servicing</i>)					
	Total expenditure					

²⁰ This does not include depreciation.

	Net operating surplus / deficit					
C	City Government Assets					
C.1	Cash					
C.2	Securities					
C.3	Long term bonds					
C.4	Other tangible assets (land, property, machinery)					
	Total assets					

Further information			
Organization	Description (eligibility)	Support available	Details
World Bank	City Creditworthiness Initiative	Provides hands-on learning programs that teach city leaders the fundamentals of creditworthiness and municipal finance, including issues determined by the enabling environment and options for financing: revenue management and enhancement; expenditure control and asset maintenance; capital investment planning; debt management; and, scoping out options for financing.	http://www.worldbank.org/en/topic/urban-development/brief/city-creditworthiness-initiative
Global Infrastructure Basel (GIB)	Standard for Sustainable and Resilient Infrastructure (SuRE®)	Supports project developers in infrastructure design and performance assessment, as well as credit rating and insurance	http://www.gib-foundation.org/